Sun Valley Beach, Hampton

BEACH WATER QUALITY REPORT
SUMMER 2004

February 2005

Prepared by: Alicia Carlson and Sara Sumner

Healthy Swimming Through Clean Water

NHDES

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

BACKGROUND

The New Hampshire Department of Environmental Services (NHDES) has operated its Public Beach Inspection Program, or Beach Program, for over twenty years. Coastal beach monitoring began in 1989 and has continued through the present. NHDES recognizes the threat to public health at public beaches and continues to monitor public beaches throughout the state for the presence of pathogenic organisms. Coastal beaches are monitored for the presence of the fecal bacteria Enterococci. These fecal bacteria are present in the intestines of warm-blooded animals including humans. Fecal bacteria, when present in high concentrations and ingested, can commonly cause gastrointestinal illnesses such as nausea, vomiting and diarrhea. They are also known as indicator organisms, meaning their presence in water may indicate the presence of other potentially pathogenic organisms.

In October of 2000, the United States Environmental Protection Agency (EPA) signed into law the Beaches Environmental Assessment and Coastal Health (BEACH) Act. The BEACH Act is an amendment to the Clean Water Act that authorizes the EPA to award grants to eligible states. The purpose of the BEACH Act is to reduce the risk of disease to users of the nation's recreational waters. BEACH Act grants provide support for development and implementation of monitoring and notification programs that help protect the public from exposure to pathogenic microorganisms in coastal recreation waters.

NHDES received grant funding in 2002 to develop and implement a beach monitoring and notification program consistent with EPA's performance criteria requirements published in the *National Beach Guidance and Required Performance Criteria for Grants* document (www.epa.gov/waterscience/beaches/grants). NHDES has successfully met all requirements and continues to expand the monitoring and notification program. In 2002, only 9 coastal beaches were monitored, in 2003 fifteen coastal beaches and in 2004 sixteen coastal beach were monitored on a routine basis.

Table of Contents

List of Figures

List of Tables

Beach Description

Sun Valley is a soft sand beach. Its total length is 965 feet. The beach is frequently used by residents and vacationers for swimming and relaxing. There are 2 access points to the beach area from the neighborhood. Lifeguards are present throughout the summer but sanitary facilities are not available.

Waterfowl and domestic animals are infrequently observed at the beach. During the seven inspections in 2004, waterfowl were observed only twice and in small numbers.

Below is a brief description of the sampling stations at Sun Valley Beach, Hampton. Both stations are accessible from the intersection with Ocean Drive and Ashland Street off of Route 1A. These stations are pictured in Figure 1.

- For the left sample, enter the beach, walk to the ninth house on the left and take a sample in front of the house.

- For the right sample, enter the beach, walk to the third house on the left and take a sample in front of the house.

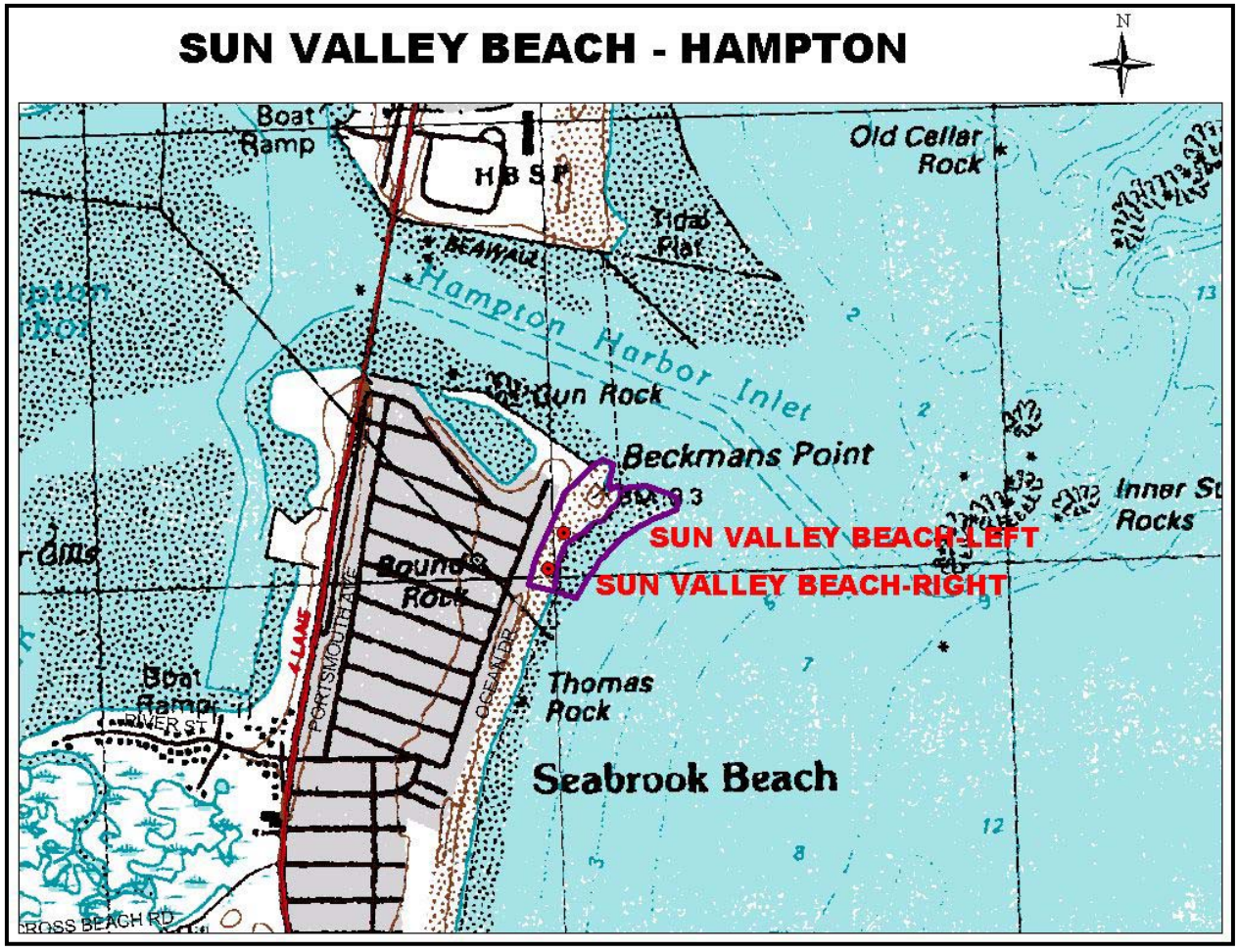

Figure 1. Map of Sun Valley Beach

Tier Status and Sampling Frequency

The Beach Program developed a risk-based beach evaluation process and tiered monitoring approach and implemented this approach during the 2003 beach season. Beach evaluations are conducted annually to determine potential health threats to the public. Evaluations are based on several criteria in three main categories: beach history, microbial pathogen sources, and beach use. Based on these criteria, beaches are assigned either a Tier I or Tier II status. Tier I are high priority beaches that have an increased potential to affect public health while Tier II are low priority beaches that have less potential to affect public health. Beach sample frequency is based on the Tier statuses; Tier I beaches are sampled weekly and Tier II beaches are sampled every other week.

The Beach Program began sampling Sun Valley Beach in 2004. It was categorized as a Tier II beach based on the Beach Program's Risk-Based Evaluation ranking system. This ranking indicates that the beach is not regularly used by the public and few potential pollution sources were identified that could negatively affect public health.

Water Quality

Beaches are monitored to ensure compliance with State Water Quality Standards. Marine waters are analyzed for the presence of the fecal bacteria Enterococci. Enterococci are known as indicator organisms, meaning their presence may indicate the presence of pathogenic bacteria. The state standard for Enterococci at public beaches is 104 counts/100 mL in one sample, or a geometric mean of 35 counts/100 mL in three samples collected over sixty days. Standard exceedances require the issuance and posting of a beach advisory. Beach advisories remain in effect until subsequent beach sampling indicates safe water quality conditions.

The number of samples collected at each beach is determined by the beach length. Beaches less than 100 feet in length are sampled at left and right locations 1/3 of the distance from either end of the beach. Beaches greater than 100 feet in length are bracketed into thirds and sampled at left, center and right locations. Routine sample collection may be enhanced by sampling known or suspected pollution sources to the beach area. Also, storm event sampling may be conducted at beaches where wet-weather events are expected to affect beach water quality.

The 2004 sampling season began June 1st. June was cooler and drier than normal, July was cooler and wetter than normal, while August was warmer and wetter than normal. The sampling season encompassed 108 days, of which precipitation was recorded on 42 days (based on Seabrook WWTF recorded precipitation). Twenty beach days (normal beach hours are considered 9:00 a.m. to 5:00 p.m.) were directly affected by precipitation.

Sun Valley Beach was sampled once every other week from June 1st through Labor Day. Two samples were collected at left and right stations (Figure 1). There were a total of seven routine inspections performed and 14 samples collected in 2004.

Table 1 includes the Enterococci data from each sampling event in 2004. Overall, the Enterococci levels were very low this season. Enterococci levels were well below the state standard and no bacteria advisories were issued in 2004.

Table 1. Sun Valley Beach Enterococci Data 2004

Sample Date	Station Name	Results (counts per 100 mL)
06/01/2004	Sun Valley Beach – Left	30
	Sun Valley Beach - Right	10
06/15/2004	Sun Valley Beach – Left	<10
	Sun Valley Beach - Right	<10
06/28/2004	Sun Valley Beach – Left	<10
	Sun Valley Beach - Right	<10
07/14/2004	Sun Valley Beach – Left	<10
	Sun Valley Beach - Right	10
07/26/2004	Sun Valley Beach – Left	<10
	Sun Valley Beach - Right	<10
08/09/2004	Sun Valley Beach – Left	<5
	Sun Valley Beach - Right	<10
08/25/2004	Sun Valley Beach – Left	<10
	Sun Valley Beach - Right	<10

Figure 2 depicts the Enterococci data relative to the state standard for coastal beaches.

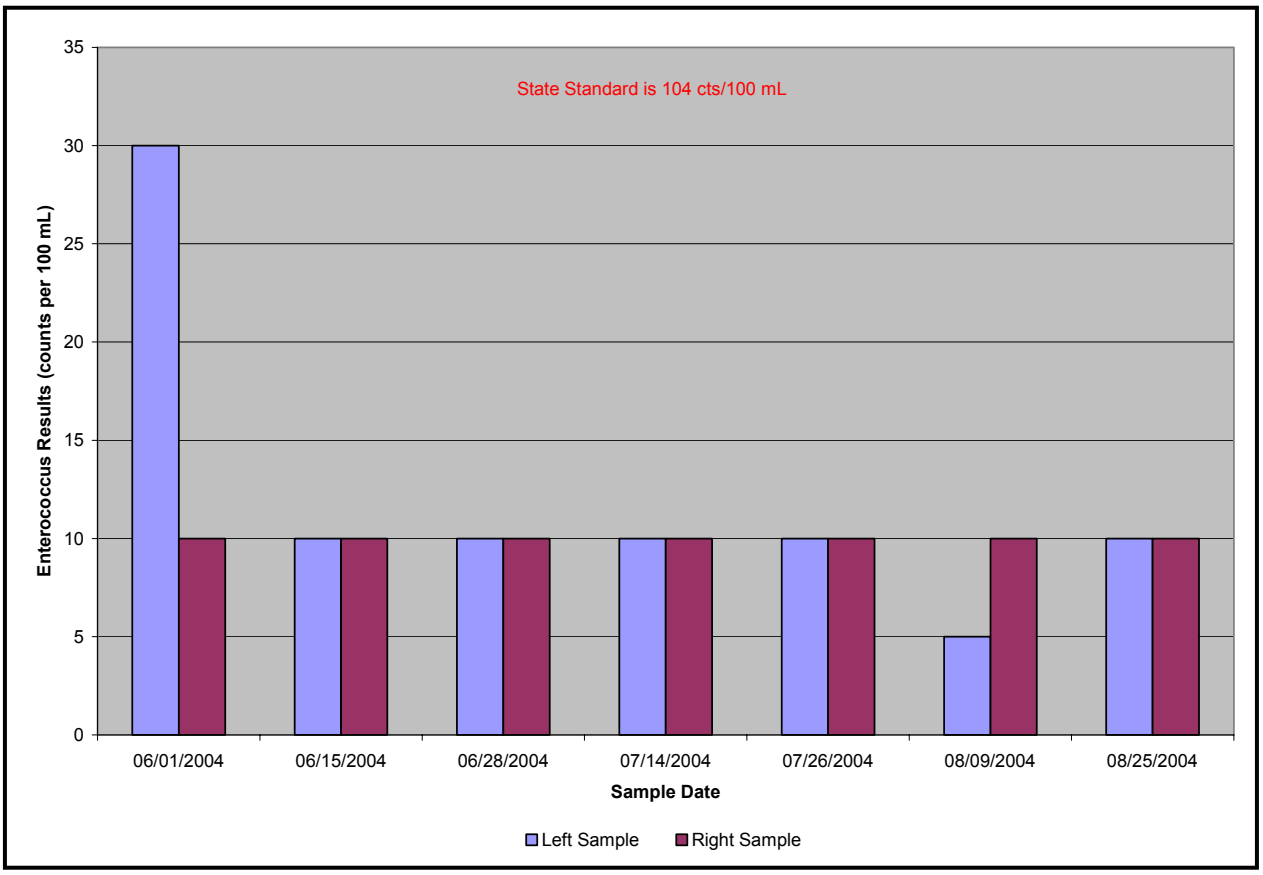

Figure 2. Sun Valley Beach Enterococci Data 2004

The Beach Program staff analyzed whether a relationship exists between elevated Enterococci levels and precipitation at Seabrook Harbor Beach. Analyses of the data indicate no direct correlation. DES will continue to monitor precipitation data and Enterococci levels. Precipitation often causes elevated bacteria levels due to runoff in the watershed.

Areas of Concern

In the spring of 2004, Seabrook Harbor was dredged to remove excess sediment. Some of the dredged materials were spread on Seabrook Town Beach and Sun Valley Beach. Beach Program staff were initially concerned that this imported material may have contained bacteria or other pollutants. However, the addition of the dredged material did not appear to affect the water quality at these beaches.

Thoughts for the Future

- The Town of Hampton, local businesses, or school groups should consider joining NHDES' Adopt-a-Beach Program. The program would consist of beach clean-ups and water quality monitoring. DES would conduct training sessions and participate in education and outreach activities for the community. If you are interested, please contact Sara Sumner at 603-271-8803 or ssumner@des.state.nh.us.